

WHAT IS CLAIMED IS:

1. An optical pick-up comprising
a movable portion on which at least a plurality of semiconductor laser
5 elements irradiating an optical recording medium with laser beams and an
objective lens converging laser beams emitted from the semiconductor laser
elements are mounted,
a fixed portion supporting the movable portion, and
a supporting component connecting the movable portion to the fixed
10 portion so that the movable portion is rockable in a focus direction and a
tracking direction of the optical recording medium;
wherein at least two of the plurality of semiconductor laser elements
have a different lasing wavelength from each other and an optical axis of the
semiconductor laser element having the shortest wavelength is aligned with
15 the center of the optical axis of the objective lens.
2. The optical pick-up according to claim 1, wherein the plurality of
semiconductor laser elements are elements included in a semiconductor laser
array having a plurality of lasing wavelengths.
- 20 3. The optical pick-up according to claim 2, wherein the semiconductor
laser array comprises a first laser element having a first active layer
comprising a first semiconductor formed on a substrate; and a second laser
element formed on the substrate, spaced with respect to the first laser
25 element and having a second active layer comprising a second semiconductor
having an energy gap larger than the energy gap of the first active layer, and
wherein a height from the substrate surface to the second active layer is
substantially the same as a height from the substrate surface to the first
active layer.
- 30 4. The optical pick-up according to claim 3, wherein the second laser
element has a height adjusting buffer layer including a third semiconductor
that is first conductive type so that the height from the substrate surface to
the second active layer is substantially the same as the height from the
35 substrate surface to the first active layer.
5. The optical pick-up according to claim 1, wherein a photodetector for

receiving returned light beams from the optical information recording medium is mounted on the movable portion.

5 6. The optical pick-up according to claim 5, wherein the plurality of semiconductor laser elements and the photodetectors are integrated via a substrate, and the substrate is provided with a mirror reflecting laser beams emitted from the semiconductor laser element.

10 7. The optical pick-up according to claim 6, wherein the plurality of semiconductor elements are elements included in a semiconductor laser array having a plurality of lasing wavelengths.

15 8. The optical pick-up according to claim 1, wherein the supporting components comprise a plurality of metal members independent in electric potential respectively, and at least one of the plurality of metal members works as an electric feeder line with respect to the semiconductor laser element.

20 9. The optical pick-up according to claim 8, wherein a photodetector receiving returned light beams from the optical information medium is further mounted on the movable portion, and at least one of the plurality of metal members works as an electric feeder line with respect to the photodetector.

25 10. An information recording and reproducing apparatus on which an optical pick-up according to claim 1 is mounted.